



Forest Sector Greenhouse Gas Inventory Improvement

IFWG Task 1

March 7, 2012

Forest Sector Inventory Overview

- ARB responsible for preparing statewide GHG inventory – including the forest sector (H&SC §39607.4)
- Forest sector GHG inventory accounts for emissions and sequestration from forests, range, and other lands
 - Emissions: wildfires, harvest residue combustion and decomposition, wood waste decomposition, carbon loss from land conversion
 - Sequestration: growth in forests and wooded rangelands
- Only sector that actively removes and sequesters CO₂ from the atmosphere

ARB Scoping Plan

- Sets forth strategy for reducing State's greenhouse gas emissions to 1990 levels by 2020
- Acknowledges unique and critical role of forests
- Establishes “no-net-loss” goal for the forest sector
- Recognizes uncertainty in forest sector inventory estimates—improvement high priority

Forest Inventory Improvement

- Develop ARB-funded contract with recognized experts in forest ecology and climate change
 - John Battles, PhD – UC Berkeley
 - Patrick Gonzalez, PhD – National Park Service
 - Brandon Collins, PhD – USFS-PSW
 - Tim Robards, PhD – Spatial Informatics Group
- Contract objectives
 - Develop a methodology to estimate statewide forest sector sequestration, emissions, and carbon stocks
 - Provide ARB staff with the data sources, methods and tools to update the forest sector inventory in the future

Technical Working Group

- Coordinated by ARB and comprised of key technical staff with expertise in GHG inventories and forestry
 - Air Resources Board
 - CalFIRE
 - California Energy Commission
 - US Forest Service
- Provides input to investigators on the appropriate methods and data sources in developing forest inventory
- Quarterly meetings during method development phase

Key Methods and Tasks

- Use of remote sensing information for land cover types – satellite data may include MODIS land cover and vegetation and GLAS altimeter
- Ground-truth remote sensing through Forest Inventory and Analysis (FIA) data
- Estimate fire GHG emissions using updated model from USFS coupled with CalFIRE data
- Develop statewide annual estimates of GHG emissions and removals for forests and rangelands
- Develop dataset on California-origin wood products produced and discarded in the State
- Quantify uncertainties and develop QA/QC procedures for all tasks

Contract Deliverables

- Primary Deliverables
 - Methodology to estimate emissions and sequestration from the forest sector from 2000 - 2010
 - Methodology to enable ARB staff to develop future inventory updates
- Technology transfer – provides process to develop inventory updates in-house
- Final comprehensive report
- Investigators will pursue publishing project work in peer-reviewed journal

Inventory Development Timeline

Fall 2011 - Spring 2012

Develop technical options and methods with researchers and agency partners

Spring 2012 - Fall 2012

Finalize inventory design

Fall 2012 - Summer 2013

Implement technology transfer

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